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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,915	07/24/2001	Kouji Yamamoto	IKE.008	2767

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EXAMINER

ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 12/11/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

PR4

Office Action Summary

Application No.

09/910,915

Applicant(s)

YAMAMOTO, KOUJI

Examiner

Esaw T Abraham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other: _____

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DETAILED ACTION

1. Claims **1 to 14** are presented for examination.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No: 2000-227685 filed on 07/27/2000.

Information Disclosure Statement

3. The examiner has been considered the references listed in the information disclosure statement submitted on 07/07/03 (see attached PTO-1449).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Each of claims 3 and 13 recites "approximately at the center," which is not definite language.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants' submitted prior art in view of Kellogg et al. (U.S. PN: 6,070,262).

As per claims 1, 4, 11 and 14, the applicants' admitted prior art in figure 3 substantially teach or disclose a conventional semiconductor memory device (ROM or RAM) having an ECC type error recovery comprises a memory cell array disposed in a matrix and each of cells arranged at an intersection a word line and bit line (digit line), a Y and X address decoders, an ECC circuit, a sense amplifier and an output circuit (see the applicants' disclosure, page 5, lines 18-25). The applicants' admitted prior art further teaches The ECC cell (see figure 3, the portion P1) disposed at the far end portion (see the applicants' disclosure, pages 5, last paragraph). The applicants' admitted prior art does not **explicitly** teach the ECC memory cell portion disposed at a location other than far end X decoder. **However**, Kellogg et al. teach in an analogous art teach that a DRAM array divided into two or more sub-arrays, with sub-array cells arranged in addressable rows and columns and further in normal mode and in ECC mode (see col. 2, lines

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15-38). Furthermore, Kellogg et al. in figure 3 an ECC array arranged at the near end of the decoder (see element 164'). **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to arrange the ECC memory location in different areas (locations) of the memory device as designed by Kellogg et al. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated to do so because disposing an ECC memory cell in different locations would heighten the decoding efficiency and increase the flexibility of configuration.

As per claims **2, 3, 12 and 13**, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claims 1 and 11 including Kellogg et al. in figure 3 teach element 164' an ECC array arranged at the near end of the decoder (see figure 3, element 164'). The admitted prior art in view of Kellogg et al. **do not teach** a specific location such as at the middle, or close (approximately) to the central. **However**, configuring the ECC cell array in different memory locations is common practice for most of error recovery systems. **Therefore**, it would have been obvious to a person having an ordinary skill in the art at the time the invention was made to implement the ECC cell array in different memory locations. **This modification** would have been obvious because a person having ordinary skill in the art would have been motivated in order to heighten the decoding efficiency and increase the flexibility of configuration.

As per claim **5**, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claim 1 including the admitted prior art teach large number of memory cells (not showing in the drawings) disposed in a matrix (see the applicants' disclosure, page 5, lines 18-25).

As per claim 6, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claim 1 including the admitted prior art teach a memory cell array disposed in a matrix and each of cells arranged at an intersection a word line and bit line (digit line), a Y and X address decoders (see the applicants' disclosure, page 5, lines 18-25 and fig. 3, elements 2 and 3).

As per claim 7, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claim 1 including the admitted prior art teach an ECC circuit and an ECC operation via sense amplifier and an output circuit (see the applicants' disclosure, page 5, lines 18-25 and fig. 3, elements 5 and 4).

As per claims 8 and 9, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claim 1 including the admitted prior art in figure 3 teach or disclose a conventional semiconductor memory device (RAM or ROM) and further Kellogg et al. teach the semiconductor device is a RAM (see claim 1).

As per claim 10, the applicants' admitted prior art in view of Kellogg et al. teach all the subject matter claimed in claim 1 including the admitted prior art teach an ECC circuit and an output circuit (see the applicants' disclosure, page 5, lines 18-25 and figure 3, element 7).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US PN: 6,216,247 Creta et al.

US PN: 6,397,290 Williams et al.

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7. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Esaw Abraham whose telephone number is (703) 305-7743. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are successful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Esaw Abraham
Esaw Abraham

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Guy J. Lamarre
for
Albert DeCady
Primary Examiner